

Amendment Remarks and Arguments

Independent claims 1, 8, and 14 remain in this application. Dependent claims 2-7, 9-13, and 15-16 remain in this application.

The Examiner rejected claims 1-7 under 35 U.S.C. § 103(a) as being unpatentable over Asao, U.S. Patent No. 6,244,877 and Kameyama, U.S. Patent No. 6,616,460. The Examiner rejected claims 6, 12, 15, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Asao in view of Uleski, U.S. Patent No. 5,554,037. The Examiner also rejected claims 8, 9, 10, 11, 13 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Asao in view of Kameyama and in further view of Uleski. The rejections are respectfully overcome by the applicant's amendments and for the reasons discussed below.

Independent claims 1 and 14 claim a face seal compressed between a top surface of an insulator block and a lower surface of an upper housing. Asao does not disclose both an insulator block and a face seal. In fact, Examiner admits that Asao does not disclose a face seal above an insulator block so that contact heads of the terminals extend through the face seal as claimed. Moreover, Asao does not disclose *any* compression of the insulator (12).

Kameyama does not disclose a face seal compressed between an insulator and a lower surface of an upper housing. Kameyama does disclose a rubber plug (7) above a connector board (6). Both the rubber plug and the connector board are located within a casing (3). But the rubber plug is not compressed by a lower surface of an upper housing. In fact, the rubber plug (7) does not even touch a lower surface of an upper housing of the casing. Instead, the rubber plug (7) is located between walls (32c) of the inner housing (32) such that the bottom of the plug rests on the connector board. The top of the plug remains exposed within the inner housing without touching an upper housing. The exposed end of the plug contacts the mating connector (8) when it is inserted into the housing. Thus, the plug is not compressed between the connector board and a lower portion of an upper housing, but is instead compressed between the connector board and the mating connector.

Thus, neither Asao nor Kameyama discloses a face seal compressed between a top surface of an insulator block and a lower surface of an upper housing. Asao does not disclose both a face seal and an insulator block, and Kameyama does not disclose a the plug compressed between an insulator block and an upper housing.

Furthermore, Kameyama teaches away from combining Asao with Kameyama. Kameyama teaches that the face seal is compressed between the mating connector and the connector board. Applying the teachings of Kameyama to Asao, would indicate that the plug (7) in Kameyama would have to be placed above the bottom wall of the upper housing in Asao. The plug (7) would need to be placed above the bottom wall of the upper housing because: (1) Kameyama teaches that the plug touches the inner walls of the housing because it is press-fitted within the inner housing. (Kameyama, c. 14 l. 11-12) and (2) Kameyama teaches that the plug is compressed by the mating connector (8). (Kameyama, c. 30 l. 1 4-8)

If the plug in Kameyama were placed below the upper housing in Asao, the plug would neither touch the inner walls of the housing nor be compressed by the mating connector in contrast to Kameyama's teachings. But placing the plug above the bottom wall of the upper housing would prevent the plug from being compressed between the insulator block and the mating connector, because of the lower wall of the upper housing.

Even if the lower wall of the upper housing in Kameyama was removed, and nowhere is this taught, the plug would still not be compressed between the insulator block and a lower portion of the housing. Instead, the plug would have to remain between the side walls of the upper housing to satisfy the teachings of Kameyama. In this configuration the plug would still not be compressed between the lower portion of the upper housing and the insulator because the plug is again not placed between them.

Therefore, claims 1 and 14 are allowable because Kameyama and Asao do not teach all of the limitations of claims 1 and 14. In addition, Kameyama teaches away from Asao.

Independent claim 8 has been amended to include a face seal disposed within a recess of the top surface of the insulator block. The recess in the insulator provides for placement of the face seal over the pins. In contrast, Asao, Kameyama, and Uleski do not disclose a face seal disposed in a recess of the top surface of an insulator block. Specifically, neither Uleski nor Asao disclose both an insulator block and a face seal. Moreover, neither Uleski nor Asao discloses a recess in the top surface of an insulator block.

The lack of a recess in the insulator of Asao, and the carrier member in Uleski indicates that those items are not used as a seal. If the insulator or carrier members were used as seals, but contained no recess for positioning, then proper placement of the seal would depend upon using the pins as a guide. Using the pins to guide placement of the face seal

could affect the pitch of the pins. One purpose of the invention is to prevent a shift in the pitch of the pins when the face seal is applied.

Kameyama also does not disclose a recess on the top of an insulator block. Instead, Kameyama relies upon the placement of the rubber plug within the inner housing for proper placement and alignment of the plug with the connector block. Therefore, claim 8 is allowable because none of the prior art shows a face seal disposed within a recess of the top surface of an insulator block.

Claims 2-7, 9-12, and 15-6 each depend from independent claims 1, 8 or 14 and are allowable for the reasons set forth above. Dependent claim 3 has been amended to define that the terminals extend straight from the contact heads to the connector tails. Claim 3 further defines that the space below the shroud allows for the attachment of components adjacent the insulator block.

Asao does not disclose straight terminals. Instead, Asao discloses bending pins that extend outside the insulator before terminating at the circuit board. Although Kameyama discloses straight terminals, Asao is the only reference that discloses the further limitation of claim 3 that the insulator has a smaller outer periphery than the shroud. The bent pins in Asao waste space below the shroud by occupying some of the space adjacent the insulator.

No teaching within Asao, Kameyama, or Uleski would indicate to one skilled in the art to replace Asao's bending pins with straight pins. In fact, Asao teaches away from using straight terminals or pins. Asao teaches that the bent pin arrangement "permits some flexing of the upper arm part A1 and the second end 13b and lateral movement of the insulator block 12 during installation of the upper case to accommodate misalignment of the parts." (Asao, c. 5 l. 28-33) Replacing the bending pins in Asao with straight pins would frustrate Asao's stated purpose of using bending pins. Therefore, claim 8 is also allowable because it would not be obvious to one skilled in the art to replace the bending pins in Asao with straight pins as claimed.

For the foregoing reasons, claims 1 - 16 are in allowable form and should be allowed, which allowance is respectfully solicited.

If it is determined that any fees are due, the Commissioner is hereby authorized and respectfully requested to charge such fees to our Deposit Account No. 50-0852. A duplicate copy of this sheet is enclosed.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, Virginia 22313-1450 on January 25, 2006.

Noelle Schultz

Noelle Schultz

Respectfully submitted,

REISING, ETHINGTON,
BARNES, KISSELLE, P.C.

Francis J. Fodale

Francis J. Fodale Reg. No. 20,824
P.O. Box 4390
Troy, Michigan 48099-4390
Phone: (248) 689-3500